9994200532

Power Pruner™ Attachment

FOR MODELS: SRM-2100SB, 2400SB, 210SB, 211SB, 225SB, 260SB, 261SB, PAS-2100, 2400, 2601, 210, 211, 225, 225VP, 225VPB, 230, 231, 260, 261, 265, 266, 280

Operator's Manual

⚠ WARNING

Users of this equipment risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. ECHO provides an operator's manual and a safety manual. Both must be read and understood for proper and safe operation. Failure to do so could result in serious injury.

Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.

X7702092204

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INTRODUCTION

Welcome to the ECHO family. This ECHO product was designed and manufactured to provide long life and on-the-job dependability. Read and understand this manual and the SAFETY MANUAL. You will find both easy to use and full of helpful operating tips and SAFETY messages.

The Operator's Manual

Keep it in a safe place for future reference. Contains specifications and information for safety, operation, maintenance, storage and assembly specific to this product.

The Safety Manual

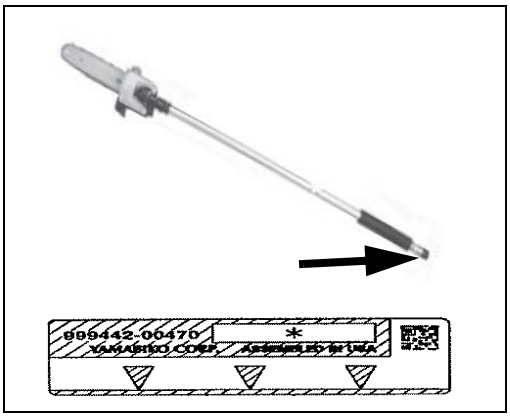
Keep it in a safe place for future reference. Explains possible hazards and the measures you should take to insure safe operation.

SERVICING INFORMATION

Parts/Serial Number

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number and Serial Number of the unit with you. You can find these numbers on the engine housing. For future reference, write them in the space provided below.

Model No. _____ SN. _____



Service

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

Echo Consumer Product Support

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit.

Warranty Registration

To ensure trouble free warranty coverage it is important that you register your ECHO equipment on-line at www.echo-usa.com or by filling out the warranty registration card supplied with your unit. Registering your product confirms your warranty coverage and provides a direct link between you and ECHO if we find it necessary to contact you.

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Additional or Replacement Manuals

Replacement Operator, Safety Manuals, and Parts Catalogs are available from your ECHO dealer or at www.echo-usa.com or by contacting ECHO Inc., 400 Oakwood Road, Lake Zurich, IL 60047 (800-673-1558). Always check the ECHO Web Site for updated information.

For more information scan this QR code.

Safety Videos are available from your Echo dealer. A $5.00 shipping charge will be required for each video.

SAFETY

⚠ WARNING

Refer to your Pro Attachment Series or Split Boom Operator's Manual for correct engine fueling, starting and stopping instructions.

Manual Safety Symbols and Important Information

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.

⚠ DANGER

The safety alert symbol accompanied by the word "DANGER" calls attention to an act or condition which WILL lead to serious personal injury or death if not avoided.

⚠ WARNING

The safety alert symbol accompanied by the word "WARNING" calls attention to an act or condition which CAN lead to serious personal injury or death if not avoided.

⚠ CAUTION

The safety alert symbol accompanied by the word "CAUTION" calls attention to an act or condition which may lead to minor or moderate personal injury if not avoided.

NOTICE

The enclosed message provides information necessary for the protection of the unit.

Note: This enclosed message provides tips for use, care and maintenance of the unit.

CIRCLE AND SLASH SYMBOL
This symbol means the specific action shown is prohibited. Ignoring these prohibitions can result in serious or fatal injury.

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International Symbols

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	Warning, See Operator's Manual		Safety/Alert		**DO NOT USE BLADES** - Line Head Only		Thrown objects
	Wear eye, ear and head protection		Finger Severing		Plan retreat pathfromfalling objects		
	Wear hand and foot protection		Rotating Cutting Attachment			AVOID KICKOUT. Keep bystanders at least 15 meters (50 feet) away.	
	Wear Face Shield		Wear slip resistant foot wear			Beware Thrown Objects Wear Eye Protection	
	Keep feet away from blade		Do not operate closer than 15 M (50 ft.) from electricalhazards. Keep bystanders at least15meters (50 feet) away			Keep bystanders and helpers away 15 m (50 ft.).	

Personal Condition and Safety Equipment

⚠ WARNING

Users of this product risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating unit.

Physical Condition

Your judgment and physical dexterity may not be good:

- if you are tired or sick,
- if you are taking medication,
- if you have taken alcohol or drugs.

Operate unit only if you are physically and mentally well.

Eye Protection

Eye protection that meets ANSI Z87.1, CE, or CSA Z94.3 requirements must be worn whenever you operate the unit.

Hand Protection

Wear no-slip, heavy duty work gloves to improve your grip on the handles. Gloves also reduce the transmission of machine vibration to your hands.

Breathing Protection

Wear a facemask to protect against dust.

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Hearing Protection

ECHO recommends wearing hearing protection whenever unit is used.

Proper Clothing

Wear snug fitting, durable clothing;

- Pants should have long legs, shirts with long sleeves.
- DO NOT WEAR SHORTS,
- DO NOT WEAR TIES, SCARVES, JEWELRY, or clothing with loose or hanging items that could become entangled in moving parts or surrounding growth.

Wear sturdy work shoes with nonskid soles;

- DO NOT WEAR OPEN TOED SHOES,
- DO NOT OPERATE UNIT BAREFOOTED.

Wear no-slip, heavy duty work gloves.

Keep long hair away from engine and air intake. Retain hair with cap or net.

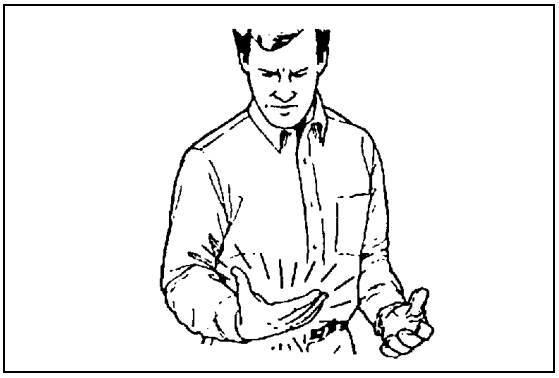
Hot Humid Weather

Heavy protective clothing can increase operator fatigue which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.

⚠ WARNING

The ignition components of this machine generate an electromagnetic field during operation which may interfere with some pacemakers. To reduce the risk of serious or fatal injury, persons with pacemakers should consult with their physician and the pacemaker manufacturer before operating this machine. In the absence of such information, ECHO does not recommend the use of ECHO products by anyone who has a pacemaker.

Vibration and Cold



It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.

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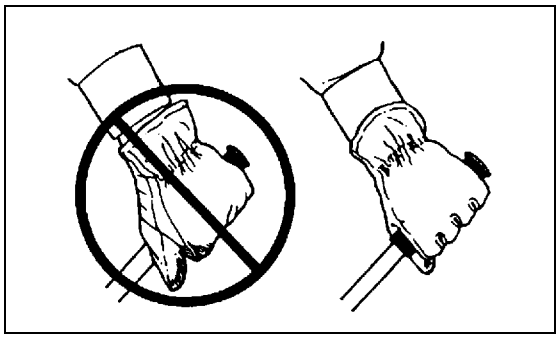
Repetitive Stress Injuries



It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:

- Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercise to strengthen the hand and arm muscles.
- Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.

⚠ DANGER

All over head electrical conductors and communications wires can have electricity flow with high voltages. This unit is not insulated against electrical current. Never touch wires directly or indirectly, otherwise serious injury or death may result.

⚠ DANGER

Do not operate this product indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

Guide Bar and Saw Chain

⚠ DANGER

- ***Serious injury may result from the use of non approved guide bar and saw chain combinations. Read and comply with all safety instructions listed in this manual.***
- ***ECHO, INC. will not be responsible for the failure of cutting devices or accessories which have not been tested and approved by ECHO for use with this unit.***
- Never adjust the guide bar or saw chain when the engine is operating.
- Check that the cutting attachment, guide bar and saw chain is firmly attached and in safe operating condition.
- Only use ECHO approved guide bar and saw chain.

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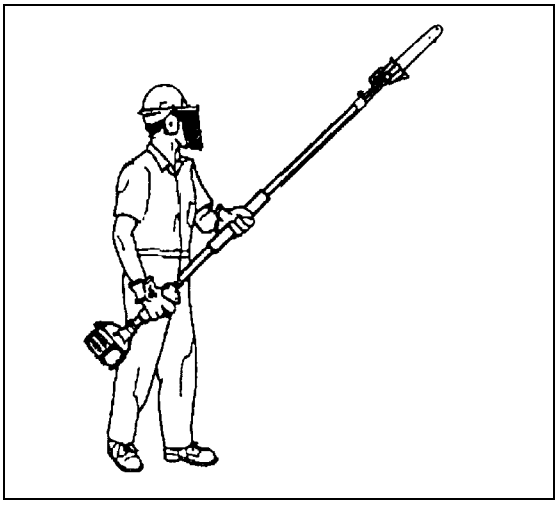
- Do not hit rocks, stones, tree stumps and other foreign objects with the saw chain.
- Do not cut into the ground with the saw chain.
- If saw chain strikes an obstruction, stop engine immediately and inspect saw chain for damage.
- Do not operate with a dull, broken or discolored saw chain.
- Remove all foreign objects from work area.
- Always cover the guide bar and saw chain with guide bar cover during transportation and in storage.



Read the Manuals

- Provide all users of this equipment with the Operator's Manual and Safety Manual for instructions on Safe Operation.

Clear the Work Area

- Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 m (50 ft.) while the unit is in use.

Use Proper Clothing & Equipment

- Always wear head protection with full face shield to help protect against falling branches and debris.

Keep a Firm Grip

- Grip Power Pruner™ with both hands with thumbs and fingers encircling the handle, and shaft tube.

Keep a Solid Stance

- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.
- Operate the Power Pruner™ only from the ground or out of an approved bucket lift.
- Always evaluate the branches to be pruned for hazards such as loose dead branches which may fall and strike the operator or helpers. Remove hazards before pruning.
- Plan retreat path from falling objects.
- Cut branches bounce when striking ground.
- Check that shoulder harness is adjusted for safe, comfortable operation. See picture at right for proper adjustment.
- Turn the Power Pruner™ off when moving from tree to tree.
- Avoid any contact with saw chain.

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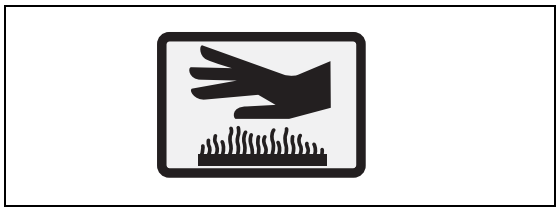
Avoid Hot Surfaces

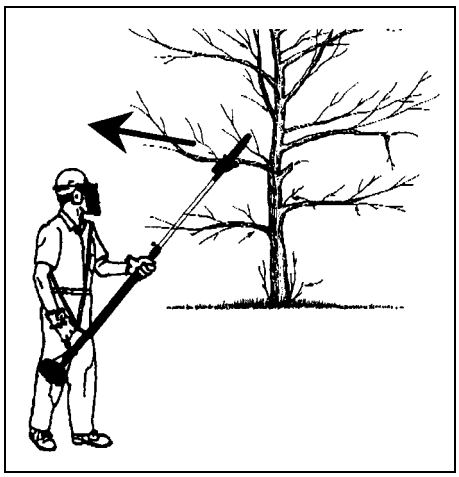


- During operation, the drive shaft housing and attachment bearing housing may become very hot, too hot to touch. Avoid contact during and immediately after operation.

Kickback

⚠ WARNING

Kickback can lead to dangerous loss of control of the Power PrunerTM and result in serious injury to the operator or any one standing close by. Hold the Power PrunerTM firmly with both hands with thumbs and fingers encircling the front and rear handles. Be aware of the down and outward path the pruner will take after the cut is made.



Kickback may occur when the moving saw chain at the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. In some cases this may cause a lightning-fast reverse action, kicking the guide bar and saw chain up and back or down and back towards the operator. Either of these reactions may cause the operator to lose control of the Power Pruner™ which could result in serious personal injury.

With a basic understanding of kickback, you can reduce or eliminate the element of surprise which contributes to accidents.

Avoid contact of the guide bar tip with any object while the saw chain is moving.

Cut only wood. Avoid striking concrete, metal, wire, or other obstructions which could cause kickback or damage to the saw chain.

If the saw chain does strike a foreign object, immediately stop the engine, inspect and repair the Power Power Pruner™ if necessary.

Equipment

⚠ WARNING

Use this attachment with ECHO approved models only. Serious injury may result from the use of this attachment combined with a non approved ECHO product.

- Check unit for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.

Note: ECHO, INC. will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO.

⚠ WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings.

- *ALWAYS stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit.*
- *DO NOT start or operate unit unless all guards and protective covers are properly assembled to unit.*
- NEVER reach into any opening while the engine is running. Moving parts may not be visible through openings.

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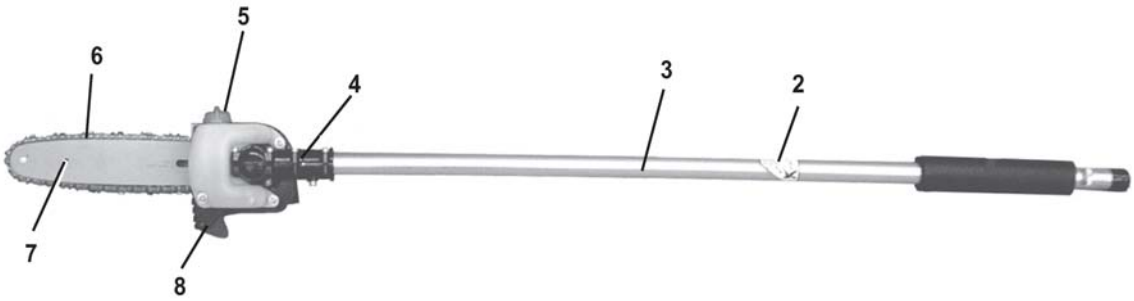
DESCRIPTION

Locate the safety decal(s) on your unit. Make sure the decal(s) is legible and that you understand and follow the instructions on it. If a decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.



Shaft Label

1. **GRIP, FRONT** - Cushioned grip for left hand.
2. **SHAFT DECAL** - Contain important safety information that must be followed.
3. **LOWER DRIVE SHAFT ASSEMBLY** - Contains a specially designed liner and the flexible drive shaft.
4. **CUTTING ATTACHMENT** - Sealed, gear ratio is 1.5:1 reduction..
5. **AUTOMATIC OILER ASSEMBLY** - Self oiling. Use high quality, low viscosity, non detergent bar and chain oil.
6. **SAW CHAIN** - Chain, serving as a cutting tool.
7. **GUIDE BAR** - 254 mm (10 inch) Bar.
8. **CUTTING SHOE** - Used to capture and stabilize branch while cutting. Place cutting shoe against branch, accelerate and lower saw chain into branch.
9. **GUIDE BAR COVER** - Used to cover guide bar and saw chain during transport and storage. Remove guide bar cover before using unit.

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CONTENTS

Due to packaging restriction the ECHO product you have purchased requires some assembly.

After opening the carton, check for damage. Immediately notify your retailer or ECHO Dealer of damaged or missing parts. Use the contents list to check for missing parts.

_____ Power Pruner™ Attachment

_____ Plastic Bag (co-pack)

_____ Operator's Manual

_____ Safety Manual

_____ Warranty Card

_____ Guide Bar Cover

_____ Storage Hook Assemblyr

_____ Assembly Tool (s)

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ASSEMBLY

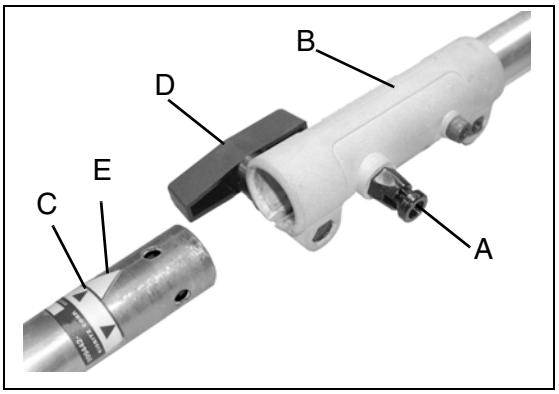
Power Head Shaft/Lower Shaft Assembly

⚠ WARNING

Do not perform maintenance or assembly procedures with engine running.

Parts Required: PAS or SRM-SB Power Head w/Shaft & Coupling

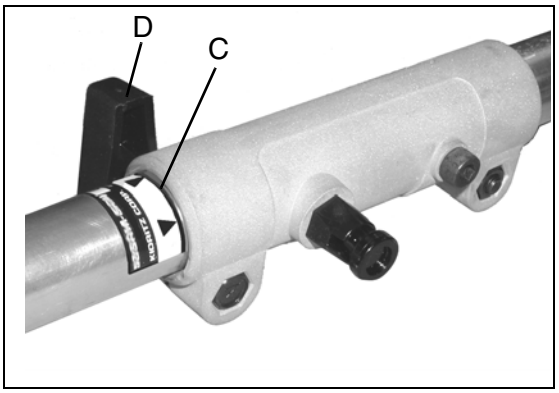
1. Set Power Head/Shaft Assembly on a level surface.
2. Pull locator pin (A) out, and turn counter-clockwise 1/4 turn to lock-out position.
3. Remove vinyl cap from attachment drive shaft.
4. Remove cardboard spacer, if necessary.
5. Carefully fit attachment drive shaft assembly into coupler (B) to decal assembly line (C), making sure that the inner lower drive shaft engages the square upper drive shaft socket.



Note: Earlier model Power Heads may have shorter couplings. Short couplings fit flush to decal point (E). New couplings are 4-3/4 in. long, and fit flush to line (C).

Note: Lower bearing housing and head assembly must be in line with the engine.

6. Rotate locator pin (A) 1/4 turn clockwise to engage lower shaft hole. Insure locator pin is fully engaged by twisting lower drive shaft. Locator pin should snap flush in coupler. Full engagement will prevent further shaft rotation.
7. Secure lower shaft assembly to coupler by tightening clamping knob (D).



Front Loop Handle Removal

Note: Front loop handles/loop handles with barrier bars are not recommended for use with this attachment.

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1. Remove front handle assembly, barrier bar (if installed), and mounting hardware from PAS or SRM-SB power head.

2. Retain parts for future use.

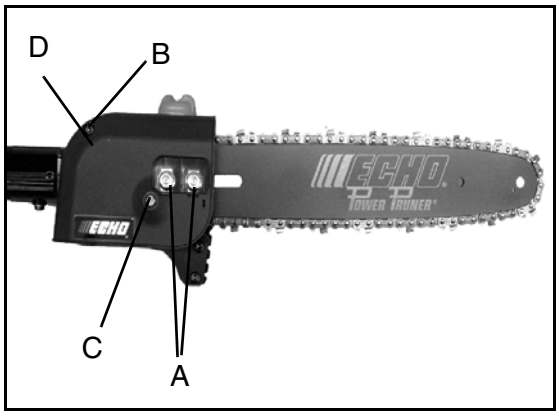
Saw Chain Adjustment

⚠ WARNING

Always disconnect spark plug wire before servicing cutting attachment. Wear gloves when handling saw chain, otherwise serious personal injury may result.

To Adjust Saw Chain Tension

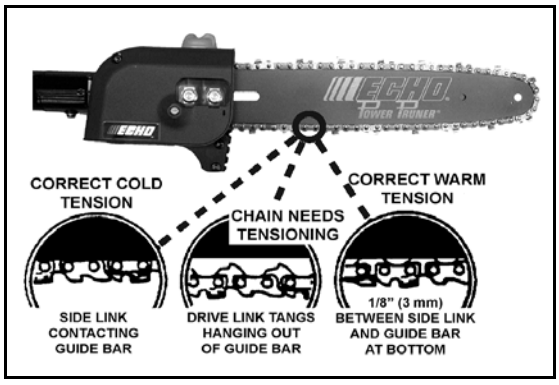
1. Move stop switch to STOP position.
2. Disconnect spark plug lead .
3. Loosen two guide bar nuts (A) until finger tight.



NOTICE

Always loosen guide bar nuts before turning the chain tension adjuster, otherwise the clutch cover and tensioner will be damaged.

4. Hold the bar nose up, and turn the adjuster screw (B) clockwise until the chain fits snugly against the underside of the bar, as shown. Cold Chain Only - turn adjuster screw CW an additional 1/8 - 1/4 turn
5. Tighten both guide bar nuts with nose held up. Tighten rear nut first.
6. Pull the chain around the guide bar by hand. Reduce the chain tension if you feel tight spots.
7. When chain is properly tensioned, tighten guide bar nuts securely.


CORRECT COLD TENSION
CHAIN NEEDS TENSIONING
CORRECT WARM TENSION
SIDE LINK CONTACTING GUIDE BAR
DRIVE LINK TANGS HANGING OUT OF GUIDE BAR
1/8" (3 mm) BETWEEN SIDE LINK AND GUIDE BAR AT BOTTOM

NOTICE

Tighten guide bar nuts to 8 - 9 N•m (71 - 80 in. lbs.) DO NOT over-tighten nuts. Damage may result

8. Keep chain properly tensioned at all times.

Note: All chains require frequent adjustment.

9. Connect spark plug lead.

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OPERATION

⚠ WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop engine, disconnect spark plug, and make sure all moving parts have come to a completestop before removing obstructions, clearing debris, or servicing unit. Allow unit to cool before performing service.

Lubricating the Guide Bar and Saw Chain

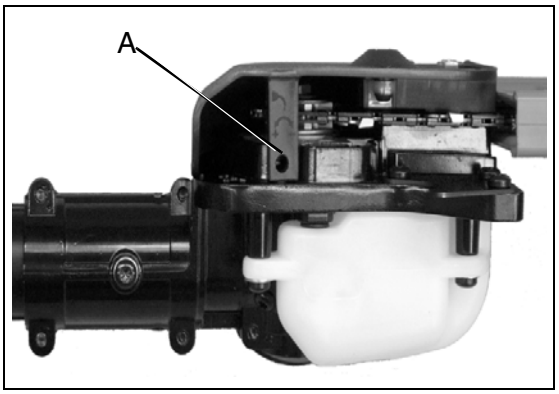
Automatic Oiling System

1. Wipe debris from around oil fill cap.
2. Remove oil fill cap and fill reservoir with a quality, low viscosity guide bar and saw chain oil.

NOTICE

To prevent plastic deterioration, do not use synthetic or silicone based oil

Adjusting Automatic Oiler



1. From bottom of gear case, turn adjustment screw (A) clockwise to decrease oil volume - counter clockwise to increase oil volume

Note: The automatic oiler is preset to deliver a sufficient oil discharge volume during normal operating conditions. During heavy or dry cutting conditions, the oil discharge volume may be increased to assure adequate lubrication. If oil is leaking from the bar cover area, reduce the oil discharge volume. Refill the oil reservoir with each tank of fuel..

Note: Very little visible oil on the saw chain will provide sufficient lubrication.

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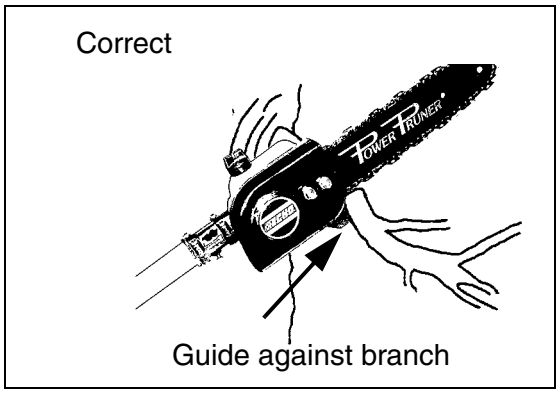
Pruning Techniques

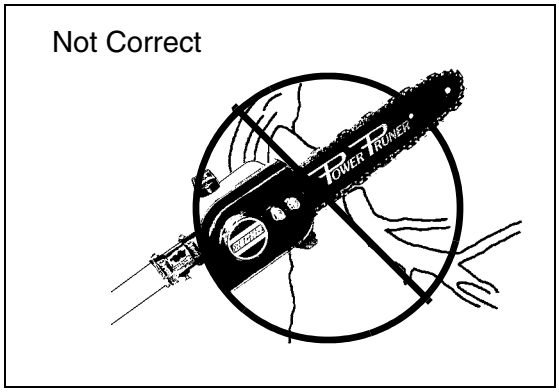
⚠ WARNING

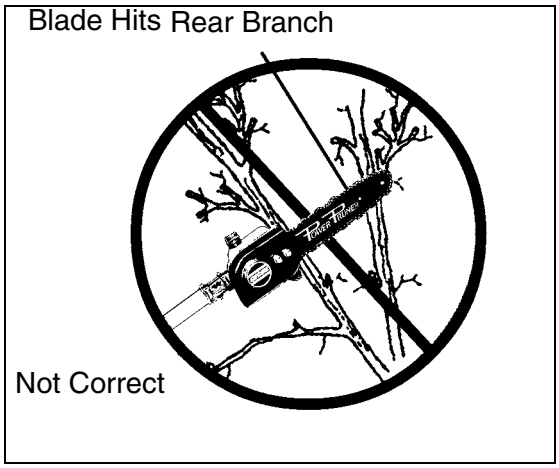
Engine exhaust IS HOT, and contains Carbon Monoxide (CO), a poison gas. Breathing CO can cause unconsciousness, serious injury, or death. Exhaust can cause serious burns. ALWAYS position unit so that exhaust is directed away from your face and body.

The Power Pruner™ is designed for light to medium trimming of limbs and branches up to 203mm (8 in.) in diameter. Follow these tips for successful operation.

- Plan cut carefully. Check direction branch will fall.
- Plan retreat path from falling branch. Cut branches bounce when striking ground.
- Long branches should be removed in several pieces.
- Do not stand directly beneath branch being cut.
- When ready to cut:
  Hold "cutting shoe" against branch. This will prevent whipping of the branch. DO NOT use back and forth sawing action.
- Look out for branch immediately behind the branch being cut. If saw chain hits rear branch damage to saw chain and guide bar may occur..
- Accelerate to full throttle.
- Ease cutting pressure when nearing end of cut to maintain control
- When pruning a limb 102 mm (4 in.) diameter or larger cut as follows.
  1. Under cut 1/4 limb diameter near tree trunk.
  2. .Finish top cut slightly farther out on limb.
  3. Flush cut stub at trunk.
- DO NOT use for felling or bucking.







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MAINTENANCE

⚠ WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit. Allow unit to cool before performing service. Wear gloves to protect hands from sharp edges and hot surfaces.

Your ECHO unit is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your unit achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance. To help you decide whether you want to DO-IT-YOURSELF or have the ECHO Dealer do it, each maintenance task has been graded. If the task is not listed, see your ECHO Dealer for repairs.

Skill Levels

Level 1 = Easy to do. Common tools may be required.
Level 2 = Moderate difficulty. Some specialized tools may be required.

ECHO offers **REPOWER™** Maintenance Kits and Parts to make your maintenance job easier.

Maintenance Intervals

COMPONENT/SYSTEM	MAINTENANCE PROCEDURE	SKILL LEVEL	Interval
Drive Shaft	Grease	**1**	Every 25 hours of use [1]
Guide Bar	Inspect/Clean/Lubricate	**2**	Before Each Use
Saw Chain	Inspect/Sharpen/Replace/Tension	**2**	Before Each Use
Screws/Nuts/Bolts	Inspect/Tighten/Replace	**1**	Before Each Use

IMPORTANT - Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.
(1) Apply POWER BLENDX™ grease.

Lubrication

Drive Shaft

Level 1.

Parts Required: Lithium Based Grease

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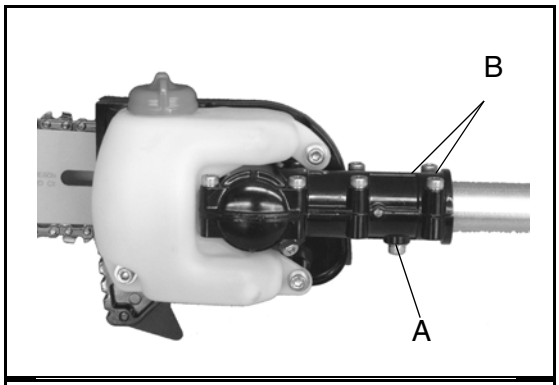
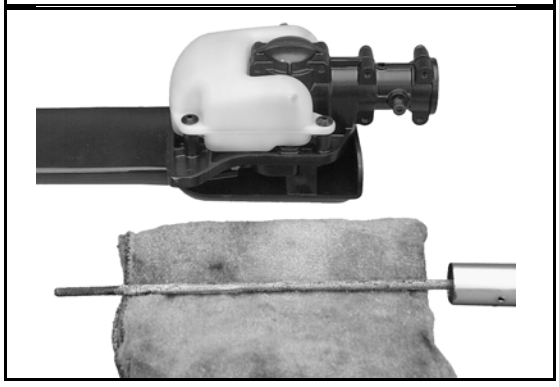
1. Remove cutting attachment locator screw (A).
2. Loosen two (2) bolts (B).
3. Remove cutting attachment assembly.
4. Remove flex cable, wipe clean and apply a thin coating (15 ml) of lithium based grease.



5. Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.
6. Install and secure cutting attachment assembly.



Guide Bar and Saw Chain Replacement

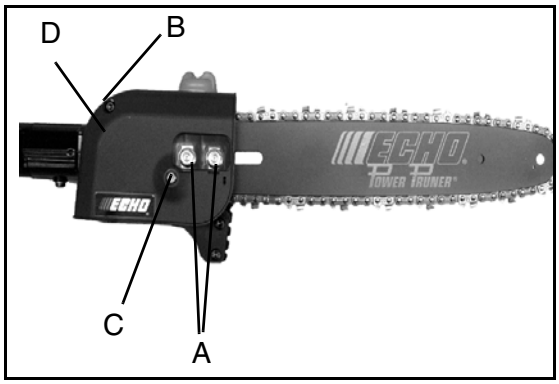
⚠ WARNING

Never try to replace or adjust guide bar and saw chain with engine running. Always disconnect spark plug wire before servicing guide bar and saw chain. This saw chain is VERY sharp, wear heavy gloves to protect your hands when handling it. Wear eye protection meeting CE or ANSI specification Z87.1.

Guide Bar Replacement / Installation

Level 2.

1. Remove two (2) guide bar nuts (A) and sprocket cover screw (B), and turn saw chain tension adjustment screw (C) counterclockwise to release tension.
2. Remove guide bar cover (D).
3. Remove guide bar and saw chain from gear case and sprocket.
4. Remove chain from guide bar and check guide bar for damage and excessive or uneven wear. Replace guide bar if necessary



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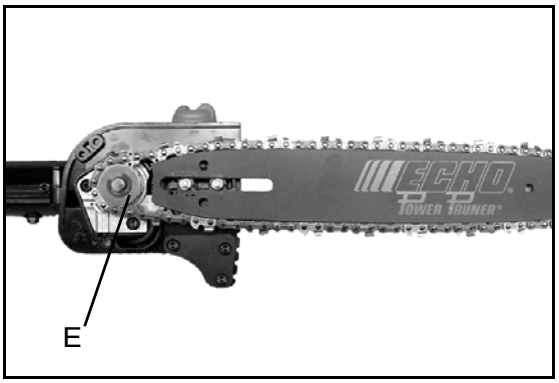
5. Install chain on guide bar with cutters on top of bar facing toward bar tip.
6. Install guide bar and chain on gear case, engaging chain with drive sprocket (E).
7. Turn tension adjustment screw clockwise to take up slack in saw chain.
8. Install guide bar cover (D), and tighten guide bar nuts finger tight and install guide bar cover screw (B).
9. Adjust chain tension.



To Adjust Saw Chain Tension

⚠ WARNING

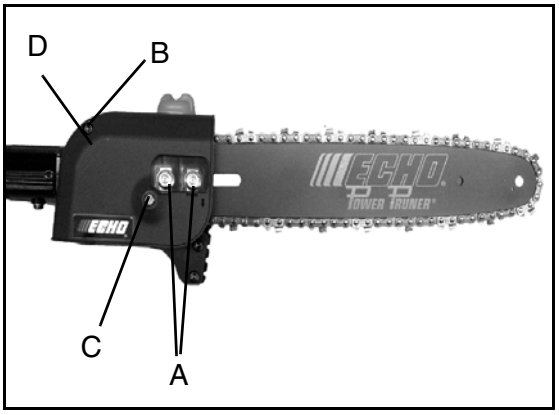
Always disconnect spark plug wire before servicing cutting attachment. Wear gloves when handling saw chain, otherwise serious personal injury may result.

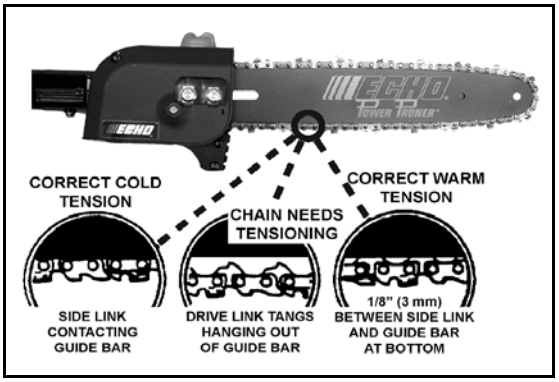
1. Move stop switch to STOP position.
2. Disconnect spark plug lead.
3. Loosen two guide bar nuts (A) until finger tight.

NOTICE

Always loosen guide bar nuts before turning the chain tension adjuster, otherwise the clutch cover and tensioner will be damaged.

4. Hold the bar nose up, and turn the adjuster screw (B) clockwise until the chain fits snugly against the underside of the bar, as shown. Cold Chain Only - turn adjuster screw CW an additional 1/8 - 1/4 turn
5. Tighten both guide bar nuts with nose held up. Tighten rear nut first.
6. Pull the chain around the guide bar by hand. Reduce the chain tension if you feel tight spots.
7. When chain is properly tensioned, tighten guide bar nuts securely.




CORRECT COLD TENSION
CHAIN NEEDS TENSIONING
CORRECT WARM TENSION
SIDE LINK CONTACTING GUIDE BAR
DRIVE LINK TANGS HANGING OUT OF GUIDE BAR
1/8" (3 mm) BETWEEN SIDE LINK AND GUIDE BAR AT BOTTOM

NOTICE

Tighten guide bar nuts to 8 - 9 N•m (71 - 80 in. lbs.) DO NOT over-tighten nuts. Damage may result

8. Keep chain properly tensioned at all times.

Note: All chains require frequent adjustment.

9. Connect spark plug lead.

Guide Bar Cover Cleaning

1. Remove two (2) guide bar nuts (A) and guide bar cover screw (B).

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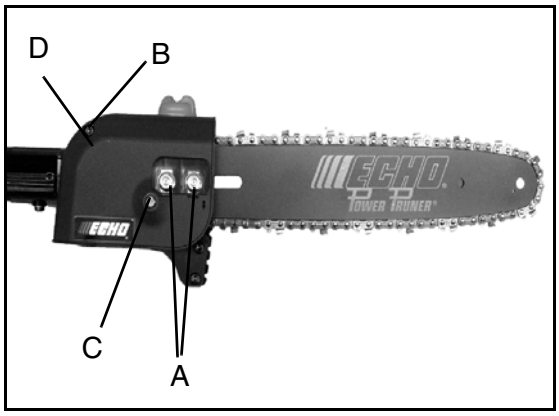
2. Remove guide bar cover (D).
3. Gently brush debris from inside guide bar cover and from around sprocket.
4. Install guide bar cover (D), install and tighten guide bar nuts, and install guide bar cover screw (B).Tighten both guide bar nuts with nose held up. Tighten rear nut first.



Filing Standard Saw Chain

Power Pruner B&C Combinations					
BAR P/N	**CHAIN P/N**	**CHAIN TYPE**	**LINKS**	**PITCH**	**GUAGE**
Narrow Kerf					
10" narrow bar P/N 10A4CD3739	90PX39CQ	90	39	3/8”	0.043
12" narrow bar P/N 12A4CD3744	90PX44CQ	90	44	3/8”	0.043
Regular					
10" regular bar P/N 10A0CD3739	91VXL39CQ	91	39	3/8”	0.050
12" regular bar P/N 12A0CD3744	91VXL44CQ	91	44	3/8”	0.050

NOTICE

Check bar Part Number on your Power Pruner. Chain and guide bar gauge size must be identical. Use Bar/Chain combinations shown in table above.

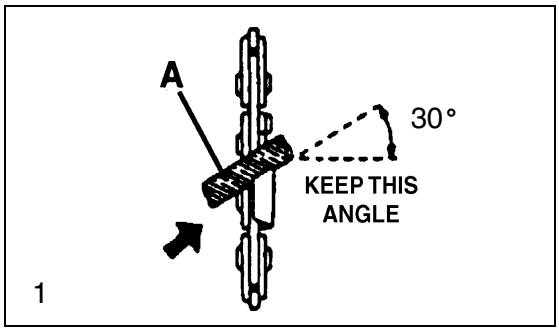
NOTICE

Dull or damaged cutters will result in poor cutting performance, increased vibration, and premature saw chain failure.

Level 2

⚠ WARNING

Always stop engine and disconnect spark plug wire before servicing guide bar and saw chain. Always wear gloves whenfilingsawchain,otherwiseseriouspersonalinjury may result.



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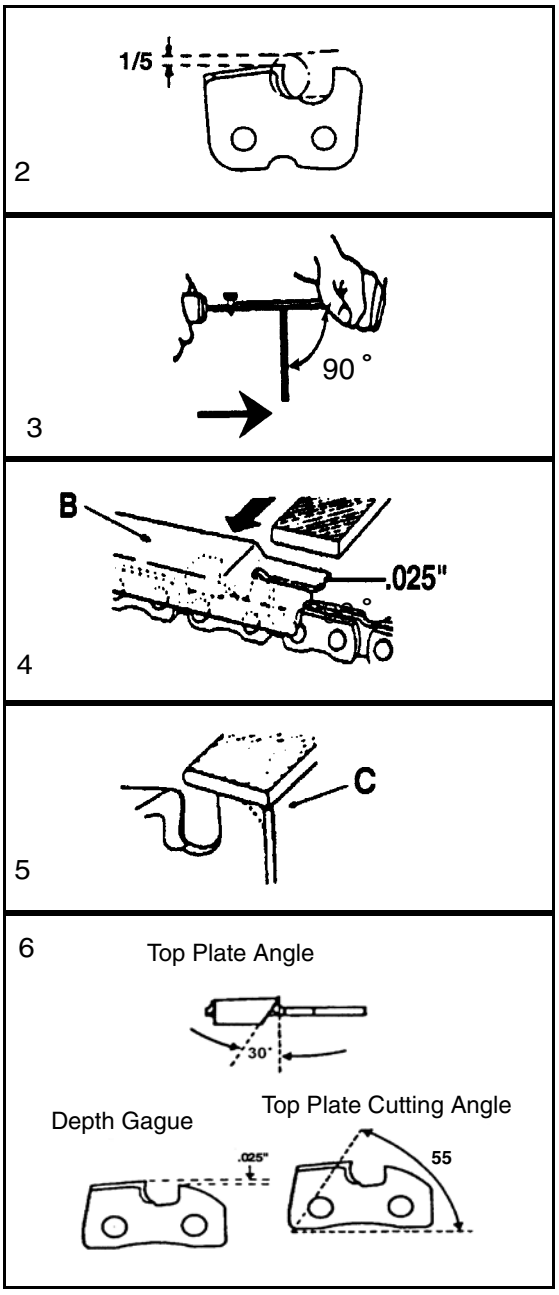
1. Set round file (A) in cutter at 30° angle. One fifth (1/5) of the file should be exposed above top cutter edge.
2. Keep file horizontal in cutter and file in one direction.
3. File until cutter top and side bevel edges are sharp without nicks.
4. Place depth gauge tool (B) firmly on top of cutter with .025 in. slot and end against front cutter raker. File cutter raker with flat file until flush with top of depth gauge.
5. Finish cutter sharpening by rounding front raker edge (C) with flat file.
6. Properly filed cutter is as shown.
7. Apply clean oil and rotate saw chain slowly to wash away filings.
8. If saw chain is coated or clogged with resin, clean in kerosene, then soak in oil.



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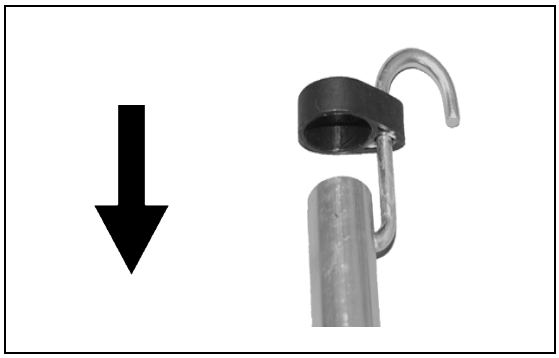
STORAGE

Storage Hook Installation

1. Insert small end of hook into locating hole on attachment shaft.
2. Slide plastic cap onto end of attachment shaft.



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SPECIFICATIONS

MODEL	99944200532
Length	1448 mm (57.0 in.)
Width	102 mm (4.0 in.)
Height	146 mm (5.75 in.)
Weight	2.25 kg (4.97 lbs.)
Sprocket Type	6 tooth spur, 9.53 mm (3/8 in.) pitch
Drive Shaft	1/4 in. Flex Cable
Gear Reduction Ratio	1.5:1
Oiling System	Automatic
Handle	Left foam grip
Guide Bar and Saw Chain	254 mm (10 in.), 9.53 mm (3/8 in.) pitch

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WARRANTY STATEMENTS

ECHO LIMITED WARRANTY STATEMENT FOR
PRODUCT SOLD IN USA AND CANADA BEGINNING 01/01/2010

ECHO'S RESPONSIBILITY
ECHO Incorporated's Limited Warranty, provides to the original purchaser that this ECHO product is free from defects in material and workmanship. Under normal use and maintenance from date of purchase, ECHO agrees to repair or replace at ECHO's discretion, any defective product free of charge at any authorized ECHO servicing dealer within listed below application time periods, limitations and exclusions. **THIS LIMITED WARRANTY IS ONLY APPLICABLE TO ECHO PRODUCTS SOLD BY AUTHORIZED ECHO DEALERS. IT IS EXTENDED TO THE ORIGINAL PURCHASER ONLY, AND IS NOT TRANSFERABLE TO SUBSEQUENT OWNERS EXCEPT FOR EMISSION RELATED PARTS.** Repair parts and accessories replaced under this warranty are warranted only for the balance of the original unit or accessory warranty period. Any damage caused by improper installation or improper maintenance is not covered by this warranty. All parts or products replaced under warranty become the property of ECHO, Inc. This warranty is separate from the Emission control warranty statement supplied with your new product. Please consult the Emission Control Warranty Statement for details regarding emission related parts. For a list of Authorized ECHO Dealers refer to WWW.ECHO-USA.COM or call **1-800-432-ECHO.**

OWNER'S RESPONSIBILITY
To ensure trouble free warranty coverage it is important that you register your ECHO equipment on-line at WWW.ECHO-USA.COM or by filling out the warranty registration card supplied with your unit. Registering your product confirms your warranty coverage and provides a direct link if we find it necessary to contact you.

The owner shall demonstrate reasonable care and use, and follow preventative maintenance, storage, fuel and oil usage as prescribed in the operator's manual. Should a product difficulty occur, you must, at your expense, deliver or ship your ECHO unit to an authorized ECHO servicing dealer for warranty repairs (within the applicable warranty period), and arrange for pick-up or return of your unit after the repairs have been made. For your nearest authorized ECHO servicing dealer, call ECHO's Dealer Referral Center, at 1-800-432-ECHO or you can locate an ECHO servicing dealer at WWW.ECHO-USA.COM. Should you require assistance or have questions concerning ECHO's Warranty Statement, you can contact our Consumer Product Support Department at 1-800-673-1558 or contact us through the web at WWW.ECHO-USA.COM.

PRODUCT WARRANTY PERIOD

RESIDENTIAL APPLICATION
- **5 YEAR WARRANTY -** All units for residential, or non-income producing use will be covered by this limited warranty for **five (5) years** from date of purchase.

  EXCEPTIONS:
  - For two-stroke engine powered products, the electronic ignition module, flexible drive cables, SRM solid drive shafts, and TC tines are warranted for the **life*** of the product on parts only.
  - Cutting attachments such as, but not limited to, bars, chains, sprockets, blades, and nylon trimmer heads for residential or non-income producing use will be covered for failures due to defects in material or workmanship for a period of **60 days** from original product purchase date. Any misuse from contact with concrete, rocks, or other structures is not covered by this warranty.
  - ECHO's Rapid Loader String Head carries a lifetime warranty on the line locking system, parts only; no labor. Refer to your operator's manual for string head installation and maintenance instructions.
  - All SB-Series and PRO ATTACHMENT SERIES Split Shaft attachments carry the same warranty duration as the units they are designed to fit.

COMMERCIAL APPLICATION
- **1 YEAR WARRANTY -** All Chain Saws, QuikVent Saws, and Cut-Off Saws for commercial, institutional, agricultural, industrial, or income producing use will be covered by this limited warranty for one **(1) year** from the date of purchase.
- **2 YEAR WARRANTY -** All other units for commercial, institutional, agricultural, industrial, or income producing use will be covered by this limited warranty for two **(2) years** from the date of purchase.

  EXCEPTIONS:
  - For two-stroke engine powered products, the electronic ignition module, flexible drive cables, SRM solid drive shafts and TC tines, are warranted for the **life*** of the product on parts only.
  - Cutting attachments such as, but not limited to, bars, chains, sprockets, blades, and nylon trimmer heads for commercial, institutional, agricultural, industrial, rental, or income producing will be covered for failures due to defects in material or workmanship for a period of **30 days** from original product purchase date. Any misuse from contact with concrete, rocks, or other structures is not covered by this warranty.
  - ECHO's Rapid Loader String Head carries a lifetime warranty on the line locking system, parts only; no labor. Refer to your operator's manual for string head installation and maintenance instructions.
  - All SB-Series and PRO ATTACHMENT SERIES Split Shaft attachments carry the same warranty duration as the units they are designed to fit.

RENTAL APPLICATION - 90 DAYS WARRANTY
- Units for rental use will be covered against defects in material and workmanship for a period of 90 days from the date of purchase.

* ECHO's liability under the "Lifetime" coverage is limited to furnishing parts specified under the PRODUCT WARRANTY PERIOD section of this warranty statement for **"Life"** free of charge for a period of ten (10) years after the date of the complete unit's final production.

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PURCHASED REPAIR PARTS, SHORT BLOCKS AND ACCESSORIES
- 90-day residential, or non-income producing warranty
- 30-day commercial, institutional, agricultural, industrial, income producing, or rental application warranty

ATTENTION TWO-STROKE ENGINE POWER PRODUCT OWNERS
This ECHO two-stroke engine power product is a quality-engineered unit which has been manufactured to exact tolerances to provide superior performance. To help ensure the performance of the unit, it is required to use two-stroke oil which meets the ISO-L-EGD Standard per ISO/CD 13738 and JASO M345FD Standards. **ECHO Power Blend™ Two-Stroke Oil** is a premium two-stroke oil specifically formulated to meet ISO-L-EGD (ISO/CD 13738) and JASO M345FD Standards. The use of two-stroke oils designed for other applications, such as for outboard motors or lawnmowers can result in severe engine damage, and will void your two-stroke engine limited warranty.

THIS WARRANTY DOES NOT COVER DAMAGE CAUSED BY:
- Lack of lubrication or engine failure, due to the use of two-stroke oils that do not meet the ISO-L-EGD (ISO/CD 13738) and JASO M345FD Standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD compliant and JASO M345FD registered oil, will void the two-stroke engine limited warranty. ECHO Power Blend™ Two-Stroke Oil meets the ISO-L-EGD and JASO M345FD Standard. Emission related parts are covered for 5 years residential use or 2 years commercial use regardless of two-stroke oil used, per the statement listed in the EPA or California Emission Defect Warranty Explanation.
- Damage caused by use of gasohol, containing methanol (wood alcohol), or gasoline containing less than 89 octane. Only use gasoline which contains 89 octane or higher. Gasohol which contains a **maximum** 10% ethanol (grain alcohol) or 15% MTBE (methyl/tertiary/butyl/ether) is also approved. The prescribed mixing ratio of gasoline to oil is listed on the ECHO oil label and covered in your operator's manual.
- Engine damage caused by use of ether or any starting fluids.
- Damage caused by tampering with engine speed governor or emission components, or running engines above specified and recommended engine speeds as listed in your operator's manual.
- Operation of the unit with improperly maintained/removed cutting shield or removed/damaged air filter.
- Damage caused by dirt, pressure or steam cleaning the unit, salt water, corrosion, rust, varnish, abrasives, and moisture.
- Defects, malfunctions or failures resulting from abuse, misuse, neglect, modifications, alterations, normal wear, improper servicing, or use of unauthorized attachments.
- Incorrect storage procedures, stale fuel, including failure to provide or perform required maintenance services as prescribed in the operator's manual. Preventative maintenance as outlined in the operators manual is the customer's responsibility.
- Failures due to improper set-up, pre-delivery service or repair service by anyone other than authorized ECHO servicing dealer during the warranty period.
- Certain parts and other items are not warranted, including but not limited to: lubricants, starter cords, and engine tune-ups.
- Use of spark plugs other than those meeting performance and durability requirements of the OEM spark plug listed in the Operator's Manuals.
- Overheating or carbon scoring failures due to restricted, clogged exhaust port or combustion chamber, including damage to spark arrester screen.
- Adjustments after the first (30) thirty days and beyond, such as carburetor adjustment and throttle cable adjustment.
- Damage to gears or gear cases caused by contaminated grease or oil, use of incorrect type or viscosity of lubricants, and/or failure to comply with recommended grease or oil change intervals.
- Damage caused by loading SHRED 'N' VAC® beyond recommended capacity.
- Damage caused by pump or sprayer running dry, pumping or spraying caustic or flammable materials, or lack of or broken strainers.
- Additional damage to parts or components due to continued use after operational problem or failure occurs. Should operational problem or failure occur, the product should not be used, but delivered as is to an authorized ECHO servicing dealer.

It is a dealer's and/or customer's responsibility to complete and return the warranty registration card supplied with your ECHO product or by visiting WWW.ECHO-USA.COM. Your receipt of purchase including date, model and serial number must be maintained and presented to an authorized ECHO servicing dealer for warranty service. Proof of purchase rests solely with the customer. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so you may also have other specific legal rights which vary from state to state. This limited warranty is given by ECHO Incorporated, 400 Oakwood Rd., Lake Zurich, IL 60047.

DISCLAIMER OF IMPLIED WARRANTIES
This limited warranty is in lieu of all other expressed or implied warranties, including any warranty of FITNESS FOR A PARTICULAR PURPOSE OR USE and any implied warranty of **MERCHANTABILITY** otherwise applicable to this product. ECHO and its affiliated companies shall not be liable for any special incidental or consequential damage, including lost profits. There are no warranties extended other than as provided herein. This limited warranty may be modified only by ECHO.

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ECHO, INCORPORATED
400 Oakwood Road
Lake Zurich, IL 60047
www.echo-usa.com

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